Circulation Research

VOLUME 56 JANUARY–JUNE 1985

VOLUME AUTHOR INDEX

Abrams, G.D., 895
Adams, S.P., 621
Albala, A., 436
Alpert, N.R., 78
Antonetti, A., 331
Arend, L.J., 242
Aronson, P.S., 773
Aronstam, R.S., 392
Austen, K.F., 324

Baer, R.W., 11, 40
Bailey, J.C., 613
Bailey, K.R., 651
Ballermann, B.J., 324
Barry, W.H., 231
Barsamian, E.M., 537
Becker, H., 563
Becker, L.C., 651
Benassi, A., 556
Bersohn, M., 285
Bevan, J.A., 205
Bichet, D.G., 457
Bishop, V.S., 410, 517
Brayden, J.E., 205
Brecher, P., 755
Brenner, B.M., 324
Brown, A.M., 868
Brown, D.L., 359
Brown, J.H., 763
Bruner, C.A., 462
Brunton, L.L., 126
Buccafusco, J.J., 392
Buchanan, J.W., Jr., 696
Bulkley, B.H., 651
Burkhoff, D., 340
Buxton, I.L.O., 126

Calvin, J.E., Jr., 40
Cameron, J., 822
Cantin, M., 801
Canty, J.M., Jr., 791
Canty, J.M., Jr., 310
Capogrossi, M.C., 899
Carretero, O.A., 816
Carter, B.J., 109
Cauvin, C., 822
Cerutti, D., 829
Chambaret, J-P., 331
Chan, C., 755
Chandra, N., 20
Chartier, L., 801
Chen, Z., 351
Chien, A.M., 899
Chobanian, A.V., 755
Chung, H-M., 457
Chung, M., 87
Claes, V., 331
Clarkson, C.W., 496
Clemmons, D.R., 418
Clowes, A.W., 139
Cobb, F.R., 651
Cohen, C., 895
Cohen, C.J., 87
Cole, B.R., 621
Cole, P.A., 839
Cooper, C.L., 97
Corey, E.J., 324
Corr, P.B., 736
Covell, J.W., 31, 351
Currie, M.G., 621

Debets, J.J.M., 606
Demmert, G., 563
Distante, A., 556
Dole, W.P., 517
Driscoll, E.M., 895
Duckles, S.P., 109

Edwards, J.A., 548
Eisenberg, B.R., 548
Eisner, D.A., 452
Ellis, A.K., 310, 791
Elzinga, G., 252
Engler, R.L., 31
Entman, M.L., 704

Farmer, B.B., 576
Feigl, E.O., 486
Fenoglio, J.J. Jr., 436
Ferrier, G.R., 184
Fink, G.D., 462
Fok, K.F., 621
Fozzard, H.A., 475
Franz, M.R., 340
Freeman, G.L., 31
Furlan, R., 175

Gabbiani, F., 829
Gabbiani, G., 829
Ganten, D., 563
Gardner, P.I., 436
Genest, J., 801
Gentile, B.J., 690
Gettes, L.S., 696
Glantz, S.A., 40, 161
Glueck, R.M., 683
Goldstein, D., 763
Goresky, C.A., 57
Goulette, R.P., 78
Graham, R.M., 635
Grattan, M.T., 11
Green, F.J., 576
Greenfield, J.C., Jr., 651
Gross, D.R., 690
Guerci, A.D., 20
Guth, B., 351
Guyenet, P.G., 359
Guzzetti, S., 175

Haber, E., 72
Hanley, F.L., 11
Hasin, Y., 231
Hasser, E.M., 410
Hatt, P-Y., 331
Haywood, J.R., 410
Hill, M.L., 262
Hoffman, B.F., 857
Hoffman, J.I.E., 11
Hoffmeister, H.M., 220
Hofmann, H., 876
Hollen, C.E., 728
Holmberg, S.W., 621
Holubarsch, C., 78
Homcy, C., 72
Homcy, C.J., 635
Hondeghem, L.M., 496
Horwitz, L.D., 793
Hunter, W.C., 340
Hutchins, G.M., 651
Hwang, O., 822

Ito, B.R., 486
Izumi, F., 402

Jalife, J., 718
January, C.T., 475
Jennings, R.B., 262, 651
Johnson, A.K., 410
Jones, A.W., 507
Jose, M.J.L., 576

Kanaide, H., 666
Karaffa, S.A., 537
Katz, A.M., 370
Khaw, B.A., 72
Khuri, S.F., 537
Kilo, C., 839
Kim, D., 676
Kirby, M.L., 392
Klocke, F.J., 310, 791
Kloner, R.A., 537
Kluge, R., 457
Kobayashi, H., 402
Kocher, O., 829
Kovacs, R.J., 613
Kramer, J.B., 736

L'Abbate, A., 556
Lai, N.C.J., 537
Lakatta, E.G., 899
Lamers, J.M.J., 285
Landini, L., 556
Lang, R.E., 563
Langer, G.A., 146
Lappe, R.W., 606
Larson, K.B., 839
Laurent, S., 676
Lecarpentier, Y., 331
Levin, H., 20
Lew, W.Y.W., 351
LeWinter, M.M., 31
Lewis, R.A., 324
Lewis, R.M., 704
L'Hernault, N., 709
Linden, J., 279, 728
Lindenfeld, J., 793
Litten, R.Z., 78
Little, W.C., 808
Locke, E., 72

Circulation Research

VOLUME 56 JANUARY–JUNE 1985

VOLUME AUTHOR INDEX

Abrams, G.D., 895
Adams, S.P., 621
Albala, A., 436
Alpert, N.R., 78
Antonetti, A., 331
Arend, L.J., 242
Aronson, P.S., 773
Aronstam, R.S., 392
Austen, K.F., 324

Baer, R.W., 11, 40
Bailey, J.C., 613
Bailey, K.R., 651
Ballermann, B.J., 324
Barry, W.H., 231
Barsamian, E.M., 537
Becker, H., 563
Becker, L.C., 651
Benassi, A., 556
Bersohn, M., 285
Bevan, J.A., 205
Bichet, D.G., 457
Bishop, V.S., 410, 517
Brayden, J.E., 205
Brecher, P., 755
Brenner, B.M., 324
Brown, A.M., 868
Brown, D.L., 359
Brown, J.H., 763
Bruner, C.A., 462
Brunton, L.L., 126
Buccafusco, J.J., 392
Buchanan, J.W., Jr., 696
Bulkley, B.H., 651
Burkhoff, D., 340
Buxton, I.L.O., 126

Calvin, J.E., Jr., 40
Cameron, J., 822
Cantin, M., 801
Canty, J.M., Jr., 791
Canty, J.M., Jr., 310
Capogrossi, M.C., 899
Carretero, O.A., 816
Carter, B.J., 109
Cauvin, C., 822
Cerutti, D., 829
Chambaret, J-P., 331
Chan, C., 755
Chandra, N., 20
Chartier, L., 801
Chen, Z., 351
Chien, A.M., 899
Chobanian, A.V., 755
Chung, H-M., 457
Chung, M., 87
Claes, V., 331
Clarkson, C.W., 496
Clemmons, D.R., 418
Clowes, A.W., 139
Cobb, F.R., 651
Cohen, C., 895
Cohen, C.J., 87
Cole, B.R., 621
Cole, P.A., 839
Cooper, C.L., 97
Corey, E.J., 324
Corr, P.B., 736
Covell, J.W., 31, 351
Currie, M.G., 621

Debets, J.J.M., 606
Demmert, G., 563
Distante, A., 556
Dole, W.P., 517
Driscoll, E.M., 895
Duckles, S.P., 109

Edwards, J.A., 548
Eisenberg, B.R., 548
Eisner, D.A., 452
Ellis, A.K., 310, 791
Elzinga, G., 252
Engler, R.L., 31
Entman, M.L., 704

Farmer, B.B., 576
Feigl, E.O., 486
Fenoglio, J.J. Jr., 436
Ferrier, G.R., 184
Fink, G.D., 462
Fok, K.F., 621
Fozzard, H.A., 475
Franz, M.R., 340
Freeman, G.L., 31
Furlan, R., 175

Gabbiani, F., 829
Gabbiani, G., 829
Ganten, D., 563
Gardner, P.I., 436
Genest, J., 801
Gentile, B.J., 690
Gettes, L.S., 696
Glantz, S.A., 40, 161
Glueck, R.M., 683
Goldstein, D., 763
Goresky, C.A., 57
Goulette, R.P., 78
Graham, R.M., 635
Grattan, M.T., 11
Green, F.J., 576
Greenfield, J.C., Jr., 651
Gross, D.R., 690
Guerci, A.D., 20
Guth, B., 351
Guyenet, P.G., 359
Guzzetti, S., 175

Haber, E., 72
Hanley, F.L., 11
Hasin, Y., 231
Hasser, E.M., 410
Hatt, P-Y., 331
Haywood, J.R., 410
Hill, M.L., 262
Hoffman, B.F., 857
Hoffman, J.I.E., 11
Hoffmeister, H.M., 220
Hofmann, H., 876
Hollen, C.E., 728
Holmberg, S.W., 621
Holubarsch, C., 78
Homcy, C., 72
Homcy, C.J., 635
Hondeghem, L.M., 496
Horwitz, L.D., 793
Hunter, W.C., 340
Hutchins, G.M., 651
Hwang, O., 822

Ito, B.R., 486
Izumi, F., 402

Jalife, J., 718
January, C.T., 475
Jennings, R.B., 262, 651
Johnson, A.K., 410
Jones, A.W., 507
Jose, M.J.L., 576

Kanaide, H., 666
Karaffa, S.A., 537
Katz, A.M., 370
Khaw, B.A., 72
Khuri, S.F., 537
Kilo, C., 839
Kim, D., 676
Kirby, M.L., 392
Klocke, F.J., 310, 791
Kloner, R.A., 537
Kluge, R., 457
Kobayashi, H., 402
Kocher, O., 829
Kovacs, R.J., 613
Kramer, J.B., 736

L'Abbate, A., 556
Lai, N.C.J., 537
Lakatta, E.G., 899
Lamers, J.M.J., 285
Landini, L., 556
Lang, R.E., 563
Langer, G.A., 146
Lappe, R.W., 606
Larson, K.B., 839
Laurent, S., 676
Lecarpentier, Y., 331
Levin, H., 20
Lew, W.Y.W., 351
LeWinter, M.M., 31
Lewis, R.A., 324
Lewis, R.M., 704
L'Hernault, N., 709
Linden, J., 279, 728
Lindenfeld, J., 793
Litten, R.Z., 78
Little, W.C., 808
Locke, E., 72

Loewy, A.D., 621
Lucchesi, B.R., 895
Lukas, A., 184
Lukeman, S., 822

Magnoni, M.S., 402
Mahnensmith, R.L., 773
Makielski, J.C., 475
Malik, K.U., 97
Malliani, A., 175
Mangiapane, M.L., 462
Marban, E., 133
Marsh, J.D., 676
Marston, W., 537
Martin, B.J., 78
Martin, J-L., 331
Mashima, S., 851
Mates, R.E., 310, 791
Maughan, W.L., 586
Mauser, M., 220
Mazet, F., 195
McCall, D., 370
McMahon, E.G., 427
McMillin-Wood, J.B., 704
Meiser, E., 377
Messina, L.M., 11
Michael, L.H., 704
Migus, A., 331
Milici, A.J., 709
Miller, J.G., 683
Moffat, M.P., 184
Mottley, J.G., 683
Mulieri, L.A., 78
Murdock, R.H., 651

Nakamura, M., 666
Needleman, P., 621
Nicholls, K.M., 457
Nienaber, C., 220
Nolly, H., 816
Nozaki, A., 851

Olsson, R.A., 517
Oshima, T., 621
Owens, G.K., 525

Pagani, M., 175
Palade, G.E., 709
Passamani, E.R., 651
Patel, A., 279, 728
Paul, R.J., 1, 427
Pelto, D.J., 899
Pérez, J.E., 683
Petty, M., 563
Phillips, M.I., 212
Picano, E., 556
Pitt, B., 895
Pizzinelli, P., 175

Rapela, C.E., 596
Reimer, K.A., 262, 651
Rich, T.L., 146
Rimoldi, O., 175
Roden, D.M., 857
Rose, C.P., 57
Rubanyi, G., 1, 117
Ruigrok, T.J.C., 285

Sadek, S., 279
Saffitz, J.E., 736
Sagawa, K., 340, 586
Saito, T., 696
Salata, J.J., 718
Sandrone, G., 175
Sarnelli, R., 556
Schaper, J., 262, 377
Schaper, W., 220
Schiffrin, E.L., 801
Schmidt, G., 851
Schneider, B., 563
Schrier, R.W., 457
Schwartz, R.P., Jr., 651
Schwartz, S.M., 139
Scicli, A.G., 816
Scicli, G., 816
Scott, J.A., 72
Shaffer, J.E., 97
Shapiro, M.D., 457
Shea, M.J., 895
Shi, A-Y., 20
Simpson, P., 884
Skalli, O., 829
Slinker B.K., 161
Smith, J.M., 507
Smith, T.W., 231, 676
Smits, J.F.M., 606
Sobel, B.E., 683
Spaan, J.A.E., 293, 789
Spielman, W.S., 242
Spray, D.C., 195
Stämmler, G., 377
Steenbergen, C., Jr., 262
Stenstrom, B., 212
Stern, M.D., 899
St-Louis, J., 801
Sunagawa, K., 586

Taira, Y., 666
Takayanagi, K., 851
Taylor, A.D., 537
Thibault, G., 801
Thomas, G., 87
Thompson, C.I., 242
Tilton, R.G., 839
Todt, J.A., 606
Tow, D.E., 537
Trabucchi, M., 402
Travis, V.L., 793
Traystman, R.J., 596
Tsitlik, J., 20

Uhlig, P.N., 11
Undesser, K.P., 410
Unger, T., 563
Ursell, P.C., 436

Valdeolmillos, M., 452
van Breemen, C., 822
van den Horn, G.J., 252
Vanhoutte, P.M., 117
Van Putten, V.J., 457

Wada, A., 402
Wakitani, K., 621
Watanabe, A.M., 576
Weil, J.V., 793
Weisfeldt, M.L., 20
Wendt, R.L., 606
Werns, S.W., 895
Westerhof, N., 252
Wetzel, G.T., 763
Wier, W.G., 133
Williams, C.L., 109
Williamson, J.R., 839
Wilson, D.A., 596
Wiseman, G.L., 576
Wit, A.L., 436
Witkowski, F.X., 736
Wittenberg, B.A., 195

Yamada, N., 517
Yatani, A., 868
Yoon, S.B., 704
Yue, D.T., 340

Zak, R., 548
Zimmer, L.J., 370

Circulation Research

VOLUME 56 JANUARY-JUNE 1985

VOLUME SUBJECT INDEX

A

Acetylcholine, 205
  action potential characteristics, 613
  muscarinic receptor density, 392
  regulation of release, 763
  sinoatrial node fade responses, 718
Acetylsalicylic acid, 1
Acid-base transport
  physiological processes, 773
Action potential
  duration and acetylcholine, 613
  90% repolarization, 857
  take-off, amplitude, and duration, 857
Action potential propagation, 696
Adenine nucleotide pool
  catabolites, 262
  ischemia with or without reperfusion, 262
Adenosine
  ATP synthesis, 220
  coronary blood flow, 517
  effect of dipyridamole, 242
  renal uptake, 242
Adenosine deaminase
  autoregulation, 517
  coronary blood flow, 517
  reactive hyperemia, 517
Adenosine receptors
  rat heart membranes, 728
Adenosine triphosphatase (ATPase)
  activity, staining, 548
Adenosine triphosphate
  ischemia and reperfusion, 262
Adenosine triphosphate synthesis
  adenosine, 220
  5-amino-4-imidazolcarboxamide riboside (AICAR), 220
  ribose, 220
Adenylate cyclase
  adrenergic receptors, 635
Adrenal capsules
  rat, 801
Adrenal nerve activity
  angiotensin II, 563
  substance P, 563
Adrenergic agonists
  clonidine, 763
  epinephrine, 763
  isoproterenol, 763
  methoxamine, 763
  norepinephrine, 763
  prazosin, 763
  yohimbine, 763
Adrenergic antagonists
  myocyte protein content, 884
Adrenergic control
  aging vs. young rats, 109
Adrenergic receptors
  acetylcholine regulation, 763
  alpha-adrenergic receptors, 635
  alpha- and beta-responses, 884
  antibodies to adrenergic receptors, 635
  beta-adrenergic receptors, 635
  molecular structure, 635
  physical properties, 635
  purification, 635
  reconstitution, 635
  regulation, 635
  signal transduction, 635
Adrenergic responsiveness
  postjunctional, 117
Adrenocorticotropic hormone (ACTH)
  aldosterone, 801
Aequorin luminescence, 133
  ryanodine, 452
  strophanthidin, 452
Afferents
  sympathetic, 175
  vagal, 175
Afterload pressures
  quantification of right ventricular with pulmonary vascular impedance, 40
AICAR
  5-amino-4-imidazolcarboxamide riboside, 220
  ATP synthesis, 220
Albumin transport
  mathematical assessment, 839
Aldosterone
  hypertensive rats, 427
Aminobenzyladenosines, 279
  ^{125}I-aminobenzyladenosine, 728
  N^6-4-aminobenzyladenosine, 728
Angiotensin II
  blood pressure control, 212
  brain, 212
  extracellular calcium depletion, 97
  left ventricular pressure-volume relation, 808
  mechanism of action, 97
  prostaglandin output, 97
  radioimmunoassay, 212
  renal vasoconstriction, 97
  sympathetic nerve activity, 563
  vascular tone, 97
Animal
  calf myocardial cells, 87
  cat, 205
  dog Purkinje fibers, 133
  dogs, 11, 31, 40, 57, 117, 242, 377
  dogs, conscious, 175, 651
  hamster, 377
  guinea pig, 87
  mice, 72, 377
  porcine, 1
  rabbit, 410
  rats, 78, 359, 377
    cultured myocardial cells, 370
    Fischer 344, 109
    injured carotid artery cell, 139
    spontaneously hypertensive, 402, 525
    Sprague-Dawley, 126
Animal models
  conscious and unconscious dogs, 651
  protecting ischemic myocardium, 651
Anisotropy, 427
Anoxia, 1
Antiarrhythmic drugs
  lidocaine, 696
  procainamide, 696
  quinidine, 696
  tetrodotoxin, 696
Aorta
  aortic mechanics, 690
  rat, 507
  thoracic aorta, 690
    diameter changes, 690
    electrical activity, 690
Aortic occlusion
  arterial pressure, 359
Area postrema
  baroreflex function, 410
Arrhythmias
  conduction in healed infarcts, 436
  ischemia-reperfusion, 184
  production in dogs, 690
  ventricular tachycardia, 736
Arrythmogenesis
  quinidine, 857
Arterial smooth muscle
  calcium-dependent potassium channel toxicity, 507
Arterial wall
  effect of cholesterol, 755
  kinins, 816
Arteries
  superior mesenteric, 822
Arterioles
  activation of calcium channels, 822
Arteriosclerosis, 139
Atherogenesis
  plasma lipids and lipoproteins, 755
Atherosclerosis, 418
  ultrasonic attenuation, 556
Atria
  acetylcholine release, 763
Atrial natriuretic factor
  angiotensin II, 801
  aldosterone production, 801
Atrial natiuretic peptide
  atriopeptin II, 606
Atriopeptins
  atriopeptin I, 621
  atriopeptin II, 621
    arterial vasodilation, 606
  atriopeptin III, 621
  ser-leu-arg-arg-atriopeptin III, 621
  renal effects, 621
Atrioventricular node
  vagal stimulation, 718
Automaticity
  depolarization-induced, 184
  potassium and cycle length relation, 857

Autoregulation
  coronary, 517
  quantification, 517

B

Baroreceptor reflexes, 359
Baroreceptors
  aortic denervation, 486
Bay k 8644, 133, 868
  a dihydropyridine, 87
  positive inotropic effect, 87
Beating heart cells, 884
Behavior
  angiotensin II
    drinking, 563
  substance P
    arousal, 563
Behavioral responses
  cardiovascular adaptation, 563
Binding studies
  function of increasing radioligand, 324
  ileum smooth muscle, 324
  inhibition, 324
  leukotriene C_4, 324
Biochemistry
  cultured heart cells, 231
  damage in cultured murine myocardial cells, 72
  free radicals, 72
  lipids, 755
  lipoproteins, 755
  plasma membrane Na^+-H^+ exchanger, 773
  ventricular isomyosin distribution, 548
Blockade
  alpha-adrenergic, 175
  autonomic, 486
  beta-adrenergic, 175
  ganglionic, 175
  muscarinic, 175
Blood gases
  carbon dioxide transients, 596
Blood pressure
  angiotensin II concentration, 462
Bradykinin
  intracoronary injection, 175
  prostaglandin output, 97
  release by kallikrein, 816
Brain
  hypothalmus, 212
  pituitary, 212
Brainstem
  cardiovascular neurons, 359
  hypothalmic stimulation, 359
Brief Reviews
  adrenergic receptors, 635
  excitatory sodium currents in heart muscle, 475
  plasma membrane Na^+-H^+ exchanger, 773
Bupivacaine, 496

C

Cable theory
  conduction velocity and $\dot{V}_{max}$, 696
Calcium
  accumulation on reperfusion, 262
  agonists, 822
  calcium-dependent fluxes, 507
  cardiac glycosides and enhanced influx, 231
  channel blockers, 97
  channels, 133, 822
  chloride channels, 507
  contractility, 676
  depletion, 97
  effect of leukotriene binding, 324
  entry and release, 133
  excitation control, 507
  handling in aldosterone-salt hypertensive rats, 427
  influx, 822
  intracellular, 822
  intracellular antagonists, 97
  overload, 285, 452
  overload and ischemic damage, 704
  paradox, 285
  potassium channels, 507
  ryanodine, 452
  sensitivity in aortic smooth muscle, 427
  sodium antiporter, 285
  sodium-calcium exchange, 133, 231
  sodium exchange, 285
  transients, 133
  uptake with CGP 28392, 676
Calcium agonist
  CGP 28392, 676
Calcium antagonist
  diltiazem, 822
  nitrendipine, 576
Calcium channel
  aorta and mesenteric resistance vessels, 822
  binding of dihydropyridines, 576
  diltiazem inhibition, 822
Calcium currents
  dihydropyridine, 87
Calcium influx
  norepinephrine, 822
Calcium ionophore
  A23187, 205
Calcium overload
  ischemia, 262
Calcium paradox, 285
Calcium sensitivity
  response to KCl, 427
Calmodulin
  inhibitors and prostaglandin output, 97
Capacitance
  coronary, 310
  diastolic relationships, 310
Carbon dioxide
  cerebrovascular response rate, 596
Cardiac force-interval relationship, 340
Cardiac ischemia
  calcium paradox, 285
  reperfusion, 285
Cardiac malformations
  histological examination, 392
Cardiac muscle, 87
Cardiac myocytes
  morphological changes during anoxia, 899
Cardiac myocytes, dissociated
  collagenase digestion, 195
  rat ventricle, 195
Cardiac output
  angiotensin II, 563
  atriopeptin II, 606
  polycythemia, 793
  substance P, 563
  systemic oxygen transport, 793
Cardiomechanics
  anterior-posterior diameter, 161
  contractile strength, 340
  Frank-Starling mechanism, 351
  heart-arterial interaction, 252
  isolated volumic systole, 351
  left ventricle, optimal power generation, 252
  left ventricular volume, 161
  postextrasystolic potentiation, 340
  pulmonary artery constriction, 40
  regional ventricular function, 351
  right ventricular dynamic afterload, 40
  ventricular afterload for maximal external work, 586
Cardiovascular neurons
  selective deafferentation, 359
Catalase
  infusion during occlusion, 895
Catecholamine kinetics, 457
Catecholamines, 635
Cation exchange
  thallium effect on, 370
Cell cultures
  control of growth and differentiation, 884
Cell growth
  intracellular pH, 773
Cell injury, reversible
  late reperfusion, 262
Cell membrane, 72
Cell volume regulation
  sodium-hydrogen exchange, 773
Central nervous system
  spinal cord, 212
Cerebral microvessels
  alpha-adrenergic receptors, 402
CGP 2893
  calcium channel agonist, 676
Chemical skinning
  rat aortic rings, 427
Chick embryo heart cells, 286
Chick heart
  tissue preparation and microsurgery, 392
Cholesterol
  atherogenesis, 755
Cholinergic pathway, parasympathetic, 486
Cholinergic vasodilation, 205
Circuloventricular organs
  subfornical, 462
Cirrhosis
  norepinephrine, 457
Compliance
  intramyocardial, 293
Conduction
  body-surface potential, 904
Contractile strength
  mathematical description, 340
  postextrasystolic, 340
Contractility
  amplitude and velocity, 676
  CGP 28392 with calcium, 676
Contraction
  normalization of developed force, 507
  rested state, 87
Controversies in Cardiovascular Research, 293, 310
  coronary, 293
  intramyocardial compliance, 293
Coronary
  arterial and overall volume, 293
  arterial beta-adrenergic responsiveness, 117
  autoregulation, 517
  baroreflex control, 486
  blood flow, 486
  capacitance, 310

circulation and oxygen uptake, 57
compliance, 293
distensibility, 293
free radicals and ischemia, 895
inflow pressure, 310
input impedance, 310
intracoronary infusion, 517
ischemia, 839
ischemia of left ventricle, 351
occlusion and myocardial function, 666
peripheral pressure, 293
porcine artery, 1
pressure-flow relations in dogs, 11
pressure-flow relationships, 310
vasodilation, 486
venous flow and compliance, 293
venous retroperfusion, 666
waterfall model, 310
Coronary circulation
models of myocardial, 293
Coronary occlusion
carbon dioxide accumulation, 537
Coronary pressure
peripheral, 11
Coupling
stimulus-response, 773
ventriculoarterial, 586
Covaspheres
anti-myosin labeled, 72
Crossbridges, 78
Cultured heart cells
chick, 676
Cycle length
potassium concentration, 857
Cyclic adenosine monophosphate (cAMP)
effect of aminobenzyladenosine on heart cell cAMP, 728
radioimmunoassay, 279
Cytoskeletal features
development of rat endothelial and smooth muscle cells, 773

D

Defense reaction
vascular responses, 359
Demarcation
hypoxic and normoxic in myocardium, 876
Deoxycorticosterone acetate (DOCA)
hypertensive rats, 427
Desensitization
muscarinic receptor, 718
postjunctional mechanisms, 718
Desmin, 773
Desmosomes
morphological changes, 195
Development
heart, 392
Diameter
changes at various frequencies, 161
left ventricle, internal, 161
Diastole, 40
Digitalis
isotropic effects, 231
Dihydropyridines
Bay k 8644, 87, 133, 868
diltiazem, 576
nifedipine, 576
nitrendipine, 576
verapamil, 576
Dimensions
left ventricle, volume, 161
Dipole moments
right ventricular papillary muscle double layer, 851
Dipyridamole
renal uptake of adenosine, 242
Diuresis
atriopeptin in rats, 621
Dopamine
hypertrophic responses with ascorbic acid, 884
Dose-response curves
phenylephrine, 410
vasopressin, 410
Double layers, equivalent
right ventricular papillary muscle, 851
Drinking responses
subfornical organ, 462
Drug interactions
bupivacaine, lidocaine, and quinidine, 496
modulated receptor hypothesis, 496
Drug treatment, antihypertensive
chlorothiazide, 525
hydralazine, 525
reserpine, 525
Drugs
acetylcholine, 205
acetylsalicyclic acid (aspirin), 1, 117
aconitine, 576
adenosine, 220, 242, 279
adenosine diphosphate, 220
adenosine monophosphate, 220
AICAR, 220
aminobenzyladenosine, 279
angiotensin II, 97, 212, 563, 808
arachidonic acid, 97
ascorbic acid, 507
atropine, 486
Bay k 8644 (dihydropyridine), 87, 133, 868
betaxolol, 884
bradykinin, 97, 175
bupivacaine, 496
calcium ionophore, A 23187, 205
calmidazolium, 97
catecholamine metabolites, 884
CGP 28392, 676
chlorothiazide, 525
clonidine, 402, 884
creatine kinase, 220
creatine phosphate, 220
dantrolene sodium, 97
deoxycorticosterone, 109
desmethylimipramine, 109
dihydroouabain, 231
diltiazem, 97, 507, 576, 822
dimethyl sulfoxide (DMSO), 71
dipyridamole, 242
dobutamine, 808
dopamine, 884
epinephrine, 884
fireflyluciferase, 220
glycine, 220
histamine, 1
hydralazine, 525
hypoxanthine, 220
ibuprofen, 651
ICI 118,551, 884
indomethacin, 1, 97, 117
inosine, 220
inosine monophosphate, 220
isobutylmethylxanthine (IBMX), 117
isoproterenol, 1, 117
lidocaine, 496, 696
mannitol, 72
mepacrine, 97
methoxamine, 884
metoprolol, 755
NAD^+, 220
nifedipine, 87, 576, 676, 801
nimodipine, 97
nisoldipine, 87
nitrendipine, 87, 133, 576, 676, 801, 868
nitrobenzyladenosine, 279
norepinephrine, 109, 402, 427, 507, 822, 884
norepinephrine, tritiated, 117
ouabain, 1, 231
papaverine, 1
phenoxybenzamine, 486
phentolamine, 1, 117, 402
phenylephrine, 410, 884
prazosin, 402, 884
procainamide, 696
propranolol, 1, 109, 117, 351, 486, 507, 755, 884
propylthiouracil, 78
prostacyclin, 117
prostaglandin E_2, 117
prostaglandin $F_{2\,alpha}$, 117
pyribenzamine, 1
quinidine, 496, 696, 857
reserpine, 525
ribose, 220
ryanodine, 97, 133, 452
[Sar^1,Ala^8]-angiotensin II, 97
sodium meclofenamate, 1
sodium nitroprusside, 1
strophanthidin, 452
terazosin, 884
tetrodotoxin, 109, 696, 857
theophylline, 242
TMB-8, 97
tranylcypromine, 117
trifluoperazine, 97
vasopressin, 410
verapamil, 576, 651, 801
W-7, 97

E

Early afterdepolarization
quinidine, 857
Ejection fraction, optimized, 586
Elastance
optimal effective arterial, 586
Electromotive force
papillary muscle preparations, 851
ventricular free wall, 851
ventricular tissue, 851
Electron microscopy
myocardial ultrastructure, 377
Electrophysiology
acetylcholine on action potential characteristics, 613
action potential duration, 857
acid-base transport, 773
anisotropy, 436
antiarrhythmic drugs, 696
arrhythmogenesis, 857
atrial pacing, 690
calcium channel agonist CGP 28392, 676
calcium channel inhibition, 822
calcium entry and release, 133
calcium overload, 452
calcium uptake, 87
cardiac, 475

cardiac sodium channels, 496
cardiac sodium currents, 868
cardiovascular neurons, 359
conduction, 436
conduction velocity, 696
early afterdepolarization, 857
electrocardiographic voltage, 857
electromotive force, 851
electrotonic interaction between normoxic and hypoxic fibers, 876
epicardial border zone of myocardial infarcts, 436
excitatory sodium currents, 475
fade responses in sinoatrial node, 718
inotropic effect of ryanodine, 452
ischemia and reperfusion, 184
maximum upstroke velocity, 495
membrane depolarization, 576
membrane potential, 231
monomorphic ventricular tachycardia, 736
positive inotropic dihydropyridines, 87
potassium channels, 87
potassium-induced depolarization, 822
resting membrane potential, 696
sodium channels, 475
sodium current, 696
stimulation in the presence of indomethacin, 117
stimulus-response coupling, 773
transmembrane potential, 436, 496
voltage clamp, 475
voltage-clamped cardiac muscle, 452
voltage clamp measurements, 87
Electrotonic interaction
hypxoic and normoxic fibers, 876
Endothelium
action stress fibers, 829
cell transport function, 839
morphology, 709
vasodilation, 205
Energy metabolism
high energy phosphates, 666
pyridine nucleotides, 666
Enzyme activity
metoprolol, 755
propranolol, 755
Enzymes
bovine superoxide dismutase, 72
myofibrillar ATPase, 78
Equilibrium binding
dihydropyridines on myocytes, 576
Errata, 286
carotid sinus and aortic arch baroreflexes in control of total peripheral resistance, 628
lipid solubility and pH potentiation, 628
Excitation-contraction coupling, 340
Excretion
water and urinary sodium 457
Exercise
polycythemia in dogs, 793
External detection
compartmental model of labeled albumin, 839
External power, 252

F

Fenestrae, 709
Ferrous sulfate
free radical formation, 72
Fiber orientation
transition from epicardium to endocardium, 31
Fiber orientation, myocardial, 851
Frank-Starling mechanism
segment shortening, 351
Free radicals
formation, role of ferrous ion, 72
oxygen-related damage in cultured murine cells, 72
radical scavenging agents and cellular injury, 72
superoxide dismutase, 895

G

Gamma-glutamyltransferase
brain capillary marker enzyme, 402
Gap junctions
morphological changes, 195
topology of cytoplasmic, 195
Geometry
left ventricle model shapes, 161
Glomerular function
rat renal glomeruli, 324
Glomerulonephritis
rat studies, 324
Graph fitting
pump function, 252
Growth factor
platelet, 418
platelet-derived, 139

H

Head-out water immersion
norepinephrine, 457
Heart
adenosine receptor determination, 279
calcium-depleted, 285
excitation-contraction coupling models, 340
oxygen transport, 57
ultrastructural morphometric analysis, 377
Heart cell culture
preparation, 884
Heart muscle
electrophysiology, 475
Hemodynamics
collateral blood flow, 11
left ventricular volume, 161
measurements after acute occlusion, 351
normovolemic polycythemia, 793
pulmonary, 40
regional blood flow, 606
regional blood flow measurements, 651
vasodilation, 606
High pressure liquid chromatography, 212
Histamine, 1
Histology
cardiac ganglionic cells, 392
degree of ischemic damage, 537
dog lung after microvascular injury, 40
isomyosin staining, 548
myocardial infarct, 895
tissue characterization, 556
Hodgkin-Huxley model
patch clamp, 475
voltage clamp, 475
Humans
morphometric analysis of myocardium, 377
Hyaluronidase
endothelial cell function, 839
tissue water content, 839
vascular hemodynamics, 839
Hypercapnia
carbon dioxide and cerebral blood flow, 596
Hypercontracture
oxygen paradox, 899
Hyperemia
myocardial reactive hyperemia, 517
Hyperkinesis, 351
Hyperoxia, 1
Hyperplasia
smooth muscle cell, 525
Hyperploidy
smooth muscle cell, 525
Hypertension
aldosterone-salt in the rat, 427
angiotensin II-induced, 462
Hypertrophy
alpha$_1$-adrenergic receptor stimulation, 884
smooth muscle cell, 525
Hypocapnia
cerebral blood flow and carbon dioxide, 596
Hypothesis
modulated receptor, 496
Hypothyroidism
rat myocardium, 78
Hypoxia, 1
electrical decoupling, 876

I

Ibuprofen
protection of ischemic myocardium, 651
Immunofluorescent staining
desmin, 829
vimentin, 829
Impedance
coronary input, 310
effects of lung hyperventilation, 40
heart rate and impedance, 40
loading system, 586
modeling, 310
reactive components, 310
stroke volume, 40
Indomethacin, 1
norepinephrine overflow, 117
Infarct
epicardial border zone, 436
size limitations, 651
Infarction
acute myocardial, 351
myocardial intramural reentry, 736
Inflammatory mediator, 324
Inotropy
calcium uptake, 676
effects of dihydroouabain, ouabain, potassium, 231
Intercalated disc, 195
Intracellular calcium
release from aorta, 822
Intracranial pressure
cardiopulmonary resuscitation, 20
Intramural reentry
ventricular tachycardia, 736
Intramyocardial compliance
diastolic pressure-flow and zero flow

pressure, 293
Intraventricular unloading
segment shortening, 351
Iodocyanopindolol
assay for labeled, 126
beta-adrenergic antagonist, 126
Ischemia, 436
adenine nucleotide pool, 262
animal models for protecting myocardium, 651
calcium overload, 262
cell volume regulation, 262
effect of elevated potassium levels, 184
free radical formation, 72
hemodynamic and mitochondrial function, 704
hyaluronidase, 839
myocardial calcium, 262
myocardial ultrasonic backscatter, 683
regional myocardial, 537
reperfusion, 895
reperfusion of myocardium, 651
segment shortening, 351
ultrastructure, 262
Isolated ventricle
postextrasystolic potentiation, 340
Isolation
adrenergic receptors, 635
Isometric force development
economy in rat myocardium, 78
Isomyosin
left ventricular presence, 548
rabbit cardiac tissue HCalpha, 548
transmural gradients, 548
V_1 and V_3 heavy chain structure, 548
Isoproterenol, 1
Isotope fluxes
chloride-36, 507
potassium-42, 507
sodium-24, 507

J

Junctions
gap, 195
intercellular, 195

K

Kallikrein-kinin system, 816
Kidney
excretory function disorders, 621
Kinetics
catecholamine, 457
Kininogenases
biological characteristics, 816
purification, 816
Kinins
blood pressure, 816

L

Laryngeal nerve stimulation, 359
Laser diffraction
experimental system, 331
kinetics of sarcomere relaxation, 331
mounting procedure, 331
Left ventricle
fiber direction and segment shortening, 31
isomyosins, 548
midwall of canine, 31
Left ventricle geometry, 161
Left ventricular pressure-time relations
derivation of time-varying elastance model, 808
Letter to the Editor, 285
electrocardiographic voltage, 904
Leukotrienes
binding, 324
LTC_4, 324
Lidocaine, 496
conduction velocity and $\dot{V}_{max}$, 696
Ligation
confluence of sinuses, 20
lateral ventricle, 20
right atrium, 20
thoracic subarachnoid, 20
Low potassium growth conditions, 286

M

Mapping
impulse propagation, 436
infarct activation maps, 436
isochronal activation maps, 736
normal sinus rhythm, 736
Marker enzymes
gamma-glutamyltransferase, 402
Matching, 252
Maximal external work, 586
Measurements
electromagnetic lever system, 331
force generation, 331
Mechanical restitution
potentiation, 340
Mechanics
aortic behavior, 690
Membrane potential, 133
Mesenteric arteries
rat, 801
Metabolism, cardiac
local regulatory mechanisms, 486
Metoprolol
atherogenesis, 755
Microcirculation
brain, 402
cerebral blood flow, 596
cerebral microvessels, 402
cerebrovascular response time, 596
coronary flow, 310
myocardial, 293
neuronal regulation, 402
Microspheres
measurement of collateral flow rates, 11
radionuclide-labeled, 11
Microsurgery
chick heart, 392
Microvascular studies
coronary circulation, 789
Migration
quiescent smooth muscle, 139
Mitochondria
function in ischemia, 704
Models
Hodgkin-Huxley, 475
Models of the coronary circulation
cross-sectional area and external pressure, 789
intramyocardial pump, 789
microvascular studies, 789
nonlinearities and time constants, 789
waterfall pump, 789
Modulated receptor hypothesis, 496
Molecular structure
adrenergic receptors, 635
Morphology
changes in desmosomes and gap junctions, 195
contrast microscopy, 899
fenestrated capillaries, 709
myocytes during anoxia. 899
video length tracking, 899
Morphometry
influence of sampling site, 377
ultrastructural, 377
volume densities, 377
Muscarinic receptor
atrioventricular node responses, 718
transmembrane cholinergic stimulation, 613
Muscarinic vasodilation, 205
Muscle
cardiac, 87, 452
Myocardial cells
cultured rat, 370
Myocardial edema
electrolyte effect, 262
Myocardial infarction
intramural reentry, 736
ischemia and reperfusion effects on size, 895
Myocardial pH, 537
Myocardium
fiber orientation. 31
ischemia, 683
ischemia and preservation, 704
reperfusion, 683
segment shortening, 31
Myocytes
distribution of beta-receptors, 126
preparation of rat cardiac, 576
Myosin
cardiac from mice, 72
distribution and age, 548
quantification of isoenzymes, 78

N

NADH fluorescence
hypoxia and electrical decoupling, 876
photography, 666
Natriuresis
atriopeptins, 621
Nerve stimulation
transmural, 109
Neural crest lesions
parasympathetic innervation, 392
Neurogenic control
alpha-adrenergic receptors, 402
angiotensin II, 563
arterial baroreflex function, 410
central blood pressure regulation, 563
embryonic chick crest ablation, 392
nerve recording, 410
neuronal regulation, 402
renal sympathetic nerves, 410
sinoaortic denervation, 410
substance P, 563
sympathetic nerve activity, 563
vasopressin and area postrema, 410
Neurogenic vasodilation, 205
Neuronal regulation, 402
Neurons
cardiovascular, 359
reticulospinal, 359
Nexus, 195
NHLBI Cooperative Study
animal models for protection of ischemic myocardium, 651
Nifedipine, 87
Nisoldipine, 87
Nitrendipine, 133, 867, 868
binding studies, 676

Nitrobenzyladenosines
N⁶-4-nitrobenzyladenosine, 728
Norepinephrine
accumulation of tritiated, 109
calcium-response curves, 427
cirrhosis, 457
depolarization, 822
stimulation of effluxes, 507
Nucleotide uptake
renal function, 242

O

Oscillatory power, 252
Ouabain, 1
Oxygen
changes in vascular tone with change in bath, 1
hemodynamics and oxygen content, 57
intracellular sequestration, 57
limiting transfer rates, 57
outflow profiles in high and low consumption, 57
red cell pool effect on diffusion, 57
toxicity, 72
tracer uptake in coronary circulation, 57
transfer from blood to tissues, 57
transport in the heart, 57
Oxygen paradox
single heart cells, 899
Oxygen transport
systemic, cardiac output with polycythemia, 793
Pain, cardiac
excitatory reflexes, 175
Papaverine, 1
Peptides
vasoactive, 606
Pericardium
left ventricular diastolic pressure, 40
Peripheral coronary pressure, 11
Permeability
capillary, 709
Persantine, 242
pH homeostasis
bicarbonate transport, 773
pH potentiation
erratum, 628

P

Pharmacology
adrenergic neuroeffector function, 109
adrenergic receptor interaction, 884
adrenergic receptors, 635
alpha-receptor-stimulated ionic fluxes, 507
beta-adrenergic receptors, 126
beta-blockers, 755
coronary adrenergic responsiveness, 117
muscarinic receptors, 392
reduction of hypertension, 755
specific beta-antagonists, 126
sympathetic nervous function, 755
vascular, of atriopeptins, 621
Phentolamine, 1
alpha-adrenergic antagonist, 1
Phenylephrine
arterial pressure, 410
Piezelectric crystals
histological defects at site, 31
positioning as external long axis markers, 31
Platelet growth factor, 418
Polycythemia
normovolemic in dogs, 793
rest and exercise, 793
Positive end-expiratory pressure (PEEP)
left ventricular dimensions, 40
pulmonary hypertension, 40
Potassium
activation and concentration, 822
effect of extracellular concentration on vasoconstriction, 1
effect of thallium, 370
effects of normal and elevated levels on canine Purkinje tissues, 184
extracellular on sodium pump, 231
Potentials
body-surface, 904
transmembrane, 436
Potentiation
postextrasystolic, 340
Power output
right ventricular, 40
Prazosin
effect on heart rate, 763
Preparations
aminobenzyladenosines, 728
beating cells, 884
brain microvessels, 402
cultured chick heart cells, 676
cultured rat myocardial cells, 370
growth factors, 418
human Sm-C/IGF-I, 418
intact vascular vessel segments, 427
mitochondrial isolation, 704
Purkinje fiber-papillary muscle, 184
Purkinje fibers, 133
radiolabeled aminobenzyladenosines, 728
rat cultured cardiac myocytes, 868
rat dissociated cells, 195
rat heart cell culture, 884
skinned aortic rings, 427
tissue fixation, 377
tissue from perfused-fixed hearts, 377
ventricular cardiomyocytes, 126
ventricular membranes, 126
Pressor reflex, 175
Pressure
coronary artery, 293
diastolic pressure-flow curves, 293
flow relationships, 310
intracranial, 20
transmission of intrathoracic to intracranial space, 20
zero flow, 293, 310
Pressure-flow relations
steady state circumflex, 11
Pressure gradients
interarterial, 11
Pressure-volume relations
caval occlusion, 808
effect of angiotensin II, 808
Procainamide
conduction velocity and $\dot{V}_{max}$, 696
Propranolol, 1, 109
atherogenesis, 755
Prostaglandins
effect of calmodulin inhibitors on production, 97
endogenous, 117
6-keto-prostaglandin $F_{1\ alpha}$, 97
prostacyclin, 117
prostaglandin E_2, 97, 117
prostaglandin $F_{2\ alpha}$, 117
synthesis, 117
vascular synthesis, 1
Protein synthesis
alpha- and beta-adrenergic stimulation, 884
Pulmonary
artery constriction and right ventricular dynamic afterload, 40
Pump function graph fitting, 252
Pumps
intramyocardial, 310
waterfall, 310
Purkinje fibers
contraction, 133
papillary muscle preparations, 184
role of intracellular calcium release, 133
role of transsarcolemmal calcium entry, 133
sheep cardiac calcium overloaded, 452
superfusion in Tyrode's solution, 184
Pyribenzamine, 1
histamine antagonist, 1

Q

Quinidine
conduction velocity and $\dot{V}_{max}$, 696

R

Radiobinding assay, 126, 212, 279, 324, 676, 728, 801
Rat
cultured myocardial cells, 370
Receptors
adenosine, 279, 728
adrenal for atrial natriuretic factor, 801
adrenergic, Brief Review, 635
alpha-adrenergic, 402, 763
$alpha_1$- and $beta_1$-interaction, 884
$alpha_1$-induction of beating, 884
beta-adrenergic mechanisms, 1
cholinergic, 392
leukotriene degradation, 324
muscarinic, 392, 613, 718
sites for local anesthetic and antiarrhythmic drugs, 496
sympathetic alpha-receptor pathway, 486
vascular for atrial natriuretic factor, 801
Red cells
chromium-51 labeled, 57
pool effect on oxygen diffusion, 57
Reentry
ventricular tachycardia, 736
Reflex
baroreceptor, 359
baroreflex function and area postrema, 410
cartotid baroreflex, 486
ventrolateral medulla oblongata, 359
Regulation
cell volume, 773
central blood pressor, 563
Relaxation
cardiac, 331
sarcomere, 331
transmural, with and without endothelium, 205

Renal
glomerular filtration, 242
leukotriene C_4 receptors, 324
rabbit sympathetic nerves, 410
sodium-depleted dog, 242
vasoconstriction, 97
Renal arteries
rat, 801
Renal nerve activity
angiotensin II, 563
substance P, 563
Renal vein spiking
stimulation with norepinephrine, 109
Renin-angiotensin system
angiotensin II-induced hypertension, 462
Reperfusion
calcium activity, 262
ischemic myocardium, 262
left coronary artery side branch, 220
normal Tyrode's solution, 184
vascular function integrity, 839
Replication
smooth muscle cell somatomedin-like peptide, 418
Resistance
angiotensin II and substance P on total peripheral, 563
coronary vascular, 310
peripheral, 252
regional vascular, 606
source, 252
stroke work, 586
Resistance, total peripheral
erratum, 628
Response time, cerebrovascular, 596
Responses to Controversies in Cardiovascular Research
cross-sectional area and external pressure, 789
diastolic pressure flow behavior, 789
intramyocardial pump, 789
microvascular studies, 789
models of the coronary circulation, 789
nonlinearities and time constants, 789
waterfall pump, 789
Resuscitation
cardiopulmonary, 20
intracranial pressure, 20
Reticulospinal neurons, 359
Rheology
vascular, 690
Ribose
ATP synthesis, 220
Rigor state
cumulative probability, 899
hypoxia duration, 899
rounded vs. recovered cells, 899
Rostral ventrolateral medulla
electrophysiology, 359
vasopressor area, 359
Ryanodine
aequorin luminescence, 133
calcium overload, 452
effect on membrane potential, 133

S

Sarcolemma, 285
Sarcomere length
laser diffraction, 331
Sarcomere relaxation
lengthening and shortening, 331
peak velocity, 331
relaxation, 331
Saturation studies
membrane, 576
Segment shortening
acute ischemia, 35
Frank-Starling mechanism, 351
left ventricle, 351
Serine proteases
physical characteristics, 816
Sinoartic denervation, 410
Sinoatrial node
vagal stimulation, 718
Smooth muscle
angiotensin II, 801
developmental rat aortic cells, 829
norepinephrine response, 801
Smooth muscle cell
carotid artery, rat, 139
porcine aortic, 418
Sodium
channels, 475, 868
currents, 475, 868
Sodium channels
modulated receptor hypothesis for nitrendipine, 868
Sodium chloride, 42
Sodium current, 696
nitrendipine effect, 868
Sodium meclofenamate, 1
Sodium nitroprusside, 1, 117
Sodium potassium pump inhibition, 452
Sodium pump
extracellular potassium, 231
inhibition and inotropy, 231
thallium, 370
Sodium-calcium exchange, 133, 285
calcium reflux, 231
effect of glycosides, 231
Sodium-hydrogen exchanger
properties and stoichiometry, 773
Somatomedin
smooth muscle cell secretion, 418
somatomedin-C, 418
Sonomicrometer, 161
Special Article
models for protecting ischemic myocardium, 651
Splanchnic nerve activity
angiotensin II, 563
substance P, 563
Staining
en face with actin-actin antibodies, 829
immunofluorescent, 829
Stimuloresponse coupling
lymphocytes, 773
neutrophils, 773
platelets, 773
Strophanthidin
twitch tension, 452
Subendocardial layer, 851
Subfornical organ
angiotensin II in the rat, 462
drinking responses, 462
pressor responses, 462
Substance P
lateral brain ventricle, 563
neuronal efferent activity, 563
pressor responses, 563
Sulfidopeptide leukotrienes, 324
Superoxide dismutase
infusion during occlusion, 895
reperfused ischemic myocardium, 895
Systole, 40

T

Techniques
autofluorescence, 876
bypass experiments, 690
chemical skinning of vascular smooth muscle, 427
chromatofocusing, 816
computer analysis of competition, 126
contrast microscopy, 899
Doppler flow probe, 606
electron microscopy, 195, 377, 436, 829
extraction, rat brain tissue, 212
freeze fracture of dissociated cells, 195
gamma-spectrometry, 839
gel electrophoresis, 78, 816, 829
gel filtration, 212
gravimetric analysis of infarct size, 895
hemispherical crystals, 161
high pressure liquid chromatography, 212, 324, 801, 242, 816
histological and histochemical examination, 392
histology, 436
immunofluorescence, 829
immunoreactive somatomedin-like peptide content, 418
indicator-dilution curves, 242
laser diffraction, 331
experimental system
mounting procedure
leukotrienes, 324
mass spectrometry, 537
microsurgery, 392
morphometric analysis, 709
morphometric measurements, 377
muscarinc receptor-binding studies, 392
myocardial gas tension, 537
NADH fluorescence, 666, 876
nerve recording, 410
patch clamp, 868
pH electrode, 537
planimetric analysis of infarct size, 895
protein measurements, Lowry, 402
radiobinding assays, 126, 212, 279, 324, 676, 728, 801
sonomicrometry, 161
thallium scintigraphy, 370
thin section electron microscope studies, 195
tissue culture, 231
tissue preparation, 392
ultrasonic attenuation, 556
video length tracking, 899
voltage clamp, 87, 475
windkessel, 486
Tension
myocardial gas, 537
Tetrodotoxin
conduction velocity and $\dot{V}_{max}$, 696
Thallium scintigraphy
Myocardial, 370
Thallium uptake
cultured myocardial cells, 370
ouabain, 370
potassium, 370
Theophylline
glomerular filtration, 242
Thermodynamics
basal heat, 78
heat calculations, 78
recovery heat, 78

tension-independent and -dependent heat, 78
Thymidine
tritiated, 139
Tissue characterization
ultrasonic, 683
Tissue culture, 72
Total peripheral resistance
erratum, 628
Transendothelial channels
murine capillary beds, 709
Transient analysis
carbon dioxide and cerebral blood flow transients, 596
Transmural gradients
ventricular isomyosins, 548
Tranylcypromine
prostacyclin synthetase inhibitor, 117
Twitch tension
bupivacaine, lidocaine, quinidine, 496
strophanthidin, 452

U

Ultrasonic dimension gauge, 31
Ultrasound
characterization, 556
indices, 556
myocardial backscatter, 683
quantitative studies, 683
tissue characterization, 683
Ultrastructure
effect of reperfusion after ischemia, 262
ischemia damage, 537
myocardium
dogs, 377
hamsters, 377
humans, 377
mice, 377
rats, 377
ventricular muscle cells, 436
Upstroke velocity
maximum rate of rise of the action potential upstroke ($\dot{V}_{max}$), 696
Uric acid
increase with AICAR, 220

V

Vagotomy
acetylcholine, 613
Vagus nerve
bilateral cervical vagotomy, 613
Vascular resistance
coronary, 310
Vascular rheology, 690
Vascular smooth muscle
adrenergic nerve stimulation, 109
antihypertensive drug therapy, 525
calcium sensitivity, 427
cell hyperploidy, 525
cell hypertrophy, 525
chemically skinned aorta, 427
muscarinic receptors, 205
porcine, 1
Vascular tone
effects of oxygen, 1
Vasoconstriction
effect of extracellular potassium on coronary, 1
renal, 97
Vasodilation
atrial peptides, 621
carotid baroreceptor reflex, 486
cholinergic, 205
muscarinic, 205
neurogenic, 205
Vasomotor center
baroreceptor reflexes, 359
cardiovascular neurons, 359
electrophysiological location in the ventrolateral medulla oblongata, 359
Vasopressin
arterial pressure, 410
sympathetic nervous system, 563
Vasopressor
cardiovascular regulation, 359
Vasospasm
electrical stimulation, 117
presence of indomethacin, 117
Ventricular activation sequence
potential curves, 851
spread of activation, 851
Ventricular function
shortening data, 31
Ventricular tachycardia
myocardial infarction, 736
Ventricular tachycardia, polymorphous
"Torsades de Pointes," 857
qunindine therapy, 857
Verapamil, 704
protection of ischemic myocardium, 651
Vimentin
cytoskeletal protein, 829
Viscoelesticity
thoracic aorta of dogs and rabbits, 690
Voltage clamp
patch clamp techniques, 868
preparations for use with, 475
sodium currents, 475

W

Wall motion
canine left ventricle midwall, 31
Waterfall pump, 310
model of the coronary circulation, 789

Z

Zero flow pressure
capacitance, 310
collateral flow, 310